L3: Entry 25 of 27 File: USPT Aug 5, 1997

DOCUMENT-IDENTIFIER: US 5653996 A
TITLE: Method for preparing liposomes

Detailed Description Text (45):
The liposome suspension may be sized to achieve a selective size distribution having optimal properties. Several techniques are available for reducing the sizes and size heterogeneity of liposomes. Sonicating a liposome suspension either by bath or probe sonication produces a progressive size reduction down to less than about 0.05 microns in size. In a typical homogenization procedure, liposomes are recirculated through a standard emulsion homogenizer until selected liposome sizes are observed. In both methods, the particle size distribution can be monitored by conventional laser-beam particle size discrimination.

Detailed Description Text (62):
The liposomes of this invention may also be administered via other microparticulate delivery systems or sustained release formulations placed in certain tissues including blood. Suitable examples of sustained release carriers include semipermeable polymer matrices in the form of shaped articles, e.g. suppositories, or microcapsules. Implantable or microcapsular sustained release matrices include polylactides (U.S. Pat. Nos. 3,773,919, EP 58,481) copolymers of L-glutamic acid and gamma ethyl-L-glutamate (U. Sidman et al., Biopolymers 22(1):547-556, (1985)), poly(2-hydroxyethyl-methacrylate) or ethylene vinyl acetate (R. Langer et al., J. Biomed. Mater. Res. 15:167-277 (1981) and R. Langer, Chem. Tech. 12:98-105 (1982)). Pharmaceutically acceptable polymers, such as collagen, polylysine, polylactic acid, polymethylacrylate, polyurethane, polyglycolic acid, hydroxypropylcellulose, agar and agarose, are also suitable carriers for liposomes of this invention. Methods for preparing these polymers in cross-linked and/or gel form are well known, and the methods can be readily adapted to incorporate liposomes. Many of the polymers, such as agar, collagen, and polyurethanes can be formulated in permeable cross-linked structures which allow liposome movement through and out of the matrices at a selected rate. Matrices of this type are suitable for drug delivery in body cavities, where the matrix can be held in place over an extended period, or for ocular use, where an implant can take the form of a clear lens. Other polymer compositions, like polylactate, can be formulated as a biodegradable solid which releases the entrapped liposome slowly over an extended polymer degradation period. Such matrices are suitable for liposome release in the mouth or stomach. Some of the polymer compositions, such as polylysine, can be polymerized in a liposome suspension to form a polymer shell about individual liposomes, to form a coating which, for example, would protect the liposomes from rapid breakdown in the stomach.

Current US Original Classification (1):
424/450

L7: Entry 7 of 13 File: USPT Oct 13, 1998

DOCUMENT-IDENTIFIER: US 5820879 A
TITLE: Method of delivering a lipid-coated condensed-phase microparticle composition

Detailed Description Text (15):
"Polyvalent counterions" are multivalent solute species each containing at least 3 charged groups (of the same charge), typically amine or carboxyl charged groups. Included in this definition are polypeptides, such as polylysine or polyaspartate, or proteins containing charged side chains, and nonpeptide polymers, such as polyquaternary amines, having a high density of positively or negatively charged monomer units.

Detailed Description Text (17):
"Polyvalent counterions" are multivalent counterions containing at least 3 charged groups (of the same charge), typically amine or carboxyl charged groups. Included in this definition are polypeptides, such as polylysine or polyaspartate, or proteins containing a charged side chains, and nonpeptide polymers, such as polyquaternary amines, having a high density of positively or negatively charged monomer units.

Detailed Description Text (40):
Preferred polyanionic polymer filaments include sulfated proteoglycans, e.g., sulfated heparin, and other sulfated polysaccharides, such as sulfated cellulose or cellulose derivatives, carrageenin and dextran sulfate, mucin, sulfated polypeptides, such as polylysine with sulfated amine groups, and glycopeptides with sulfonate-derivatized saccharide or peptide subunits, and hyaluronic acid.

Detailed Description Text (104):
Alternatively, a coat of hydrophilic material, such as polylysine or other polypeptide can be formed on the condensed particles. One method for forming a protein polyvalent peptide coat on a condensed microparticle is described in Section IV.

Detailed Description Text (150):
Another method for encapsulating particles involves a reverse phase evaporation method of liposome formation (Szoka, 1980). To modify the method to the needs of the present invention, a concentrated aqueous microparticle suspension containing entrapped compound is emulsified in a solution of phospholipids in a lipophilic solvent, such as chloroform. The emulsion that forms is a water-in-oil emulsion made up of individual microparticles, each coated by a phospholipid monolayer. The emulsion is reduced to an unstable lipid gel by solvent removal.

Refine Search

Search Results -

Terms	Documents
(reverse$ adj1 phase) adj5 (liposome) and polylysine	13

Database:
US Pre-Grant Publication Full-Text Database
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Search:
(reverse$ adj1 phase) adj5 (liposome) same complex$

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Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR			
L7	(reverse$ adj1 phase) adj5 (liposome) and polylysine	13	L7
L6	(reverse$ adj1 phase) adj5 (liposome) same polylysine	0	L6
L5	(prepar$ adj3 liposome) adj5 emulsif$	10	L5
L4	emulsion adj5 add$ adj5 polylysine	1	L4
L3	L2 and polylysine	27	L3
L2	L1 and 424/450.ccls.	147	L2
L1	liposome adj5 emulsion	1133	L1

END OF SEARCH HISTORY